

U.S. Department of Commerce, Patent and Trademark Office				Atty Docket No.	Serial No.		
				M-8915 US	09/839,637		
INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Use several sheets if necessary)				Applicants			
				Mohammad H. S. Amin et al.			
				Filing Date	Group		
				April 20, 2001	Unknown		
U.S. Patent Documents							
*Examiner Initial		Document Number	Date	Name	Class	Subclass	Filing Date If Appropriate
<i>Sum</i>	AA	5,917,322	Jun. 29, 1999	Gershenfeld et al.	324	307	
Foreign Patent Documents							
		Document	Date	Country	Class	Subclass	Translation
	AB						Yes No
OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)							
<i>Sum</i>	AC	Blatter, G. et al., "Design aspects of superconducting-phase quantum bits", <i>The American Physical Society</i> (2001) Vol. 63, Pages 174511-1 to 174511-9.					
<i>Sum</i>	AD	Briegel, H.-J. et al., "Quantum repeaters for communication" (1998), Pages 1-8.					
<i>Sum</i>	AE	Bruder, C. et al., "Tunnel junctions of unconventional superconductors", <i>The American Physical Society</i> (1995) Vol. 51, Pages 904-907.					
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<i>Sum</i>	AJ	Havel, T. et al., "Principles and demonstrations of quantum information processing by NMR spectroscopy" (1999), Pages 1-42.					
<i>Sum</i>	AK	Jacobs, A. et al., "Proximity Effect, Andreev Reflections, and Charge Transport in Mesoscopic Superconducting-Semiconducting Heterostructures" (1998) eight pages..					
<i>Sum</i>	AL	Jones, J. et al., "Implementation of a quantum search algorithm on a quantum computer", <i>Nature</i> (1998) Vol. 393, Pages 344-346.					
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Sheet 2 of 3

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<i>Smu</i>	AC	Joyez, P. et al., "Observation of Parity-Induced Suppression of Josephson Tunneling in the Superconducting Single Electron Transistor", <i>The American Physical Society</i> (1994) Vol. 72, Pages 2458-2461.
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<i>Smu</i>	AJ	Omelyanchouk, A. et al., "Ballistic Four-Terminal Josephson Junction: Bistable States and Magnetic Flux Transfer" (1999) Pages 1-11 with six pages of drawings.
<i>Smu</i>	AK	Ouboter, R. et al., "Macroscopic quantum interference effects in superconducting multiterminal microstructures", <i>Academic Press</i> (1999) Vol. 25, Pages 1005-1017.
<i>Smu</i>	AL	Ryazanov, V. et al., "Coupling of two superconductors through a ferromagnet: evidence for a η junction" (2000) Pages 1-6.

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Sum	AG	Shor, P., "Polynomial-Time Algorithms For Prime Factorization And Discrete Logarithms On A Quantum Computer", <i>Society for Industrial and Applied Mathematics</i> (1997) Vol. 26, Pages 1484-1509.
Sum	AH	Tafuri, F. et al., "Feasibility of biepitaxial $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ Josephson junctions for fundamental studies and potential circuit implementation", <i>The American Physical Society</i> (2000) Vol. 62, Pages 431-438.
Sum	AI	Vandersypen, L. et al., "Experimental Realization of an Order-Finding Algorithm with an NMR Quantum Computer", <i>The American Physical Society</i> (2000) Vol. 25, Pages 5452-5455.
Sum	AJ	Vleeming, B., "The Four-terminal SQUID", Pages 1-100.
Sum	AK	Volkov, A. et al., "Phase-coherent effects in multiterminal superconductor/normal metal mesoscopic structures" (2000), Pages 1-6.
Sum	AL	Ye, P. et al., "High Magnetic Field Microwave Conductivity of 2D Electrons in an Array of Antidots" (2001), Pages 1-4.

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Sheet E JCS MAR 05 2003 U.S. PATENT & TRADEMARK OFFICE				Application Number	09/839,637
				Filing Date	April 20, 2001
				First Named Inventor	Mohammad Amin
				Art Unit	2822
				Examiner Name	Unknown
Sheet 1 of 2				Attorney Docket Number	
U.S. PATENT DOCUMENTS					
Examiner Initials	Cite No. ¹	Document Number Number - Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
Sun	BA	US-6,495,854 B1		D.M. Newns, and C.C. Tsuei	
Sun	BB	US-6,459,097 B1		A. M. Zagoskin	
Sun	BC	US-6,504,172 B2		A. M. Zagoskin et al.	
		US-			

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Examiner Initials	Cite No. ¹	Foreign Patent Document Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶

OTHER ART (Including Author, Title, Date, Pertinent Pages, Etc.)

Sun	BD	R. de Bruyn Ouboter, A.N. Omelyanchouk, and E.D. Vol, "Multi-terminal SQUID controlled by the transport current", <i>Physica B</i> , Vol. 205, pp. 153-162 (1995).
Sun	BE	R. de Bruyn Ouboter and A.N. Omelyanchouk, "Four-terminal SQUID: Magnetic Flux Switching in Bistable State and Noise", <i>Physica B</i> , Vol. 254, pp. 134-140 (1998).
Sun	BF	R. de Bruyn Ouboter, A.N. Omelyanchouk, and E.D. Vol, "Dynamical properties of the Josephson multiterminals in an applied magnetic field", <i>Physica B</i> , Vol. 239, pp. 203-215 (1997).
Sun	BG	R. de Bruyn Ouboter, A.N. Omelyanchouk, and E.D. Vol, "Magnetic flux locking in two weakly coupled superconducting rings", ArXiv.org: cond-mat/9805174, pp. 1-10 (1998), website last accessed on January 16, 2002.

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<i>Sun</i>	BH	J.P. Heida, B.J. van Wees, T.M. Klapwijk, and G. Borghs, "Nonlocal supercurrent in mesoscopic Josephson junctions", <i>Physical Review B</i> , Vol. 57, pp. R5618–R5621 (1998).
<i>Sun</i>	BI	J. P. Heida, B. J. van Wees, T. M. Klapwijk, and G. Borghs, "Critical currents in ballistic two-dimensional InAs-based superconducting weak links", <i>Physical Review B</i> , Vol. 60, pp. 13135–13138 (1999).
<i>Sun</i>	BJ	Lev B. Ioffe, Vadim B. Geshkenbein, Mikhail V. Feigel'man, Alban L. Fauchère, and Gianni Blatter, "Environmentally decoupled sds-wave Josephson junctions for quantum computing", <i>Nature</i> , Vol. 398, pp. 679–681 (1999)
<i>Sun</i>	BK	Urs Ledermann, Alban L. Fauchère, and Gianni Blatter, "Nonlocality in mesoscopic Josephson junctions with strip geometry", <i>Physical Review B</i> , Vol. 59, pp. R9027–R9030 (1999).
<i>Sun</i>	BL	K.K. Likharev, "Superconducting weak links", <i>Reviews of Modern Physics</i> , Vol. 51, pp. 101, 102, 146–147 (1979).
<i>Sun</i>	BM	Y. Makhlin, G. Schön, and A. Shnirman, "Quantum-State Engineering with Josephson-Junction Devices", <i>Reviews of Modern Physics</i> , Vol. 73, pp. 357–400 (2001).
<i>Sun</i>	BN	P. Samuelsson, Å. Ingerman, V.S. Shumeiko, and G. Wendum, "Nonequilibrium Josephson current in ballistic multiterminal SNS-junctions", ArXiv.org: cond-mat/0005141, pp. 1–12 (2000), website last accessed January 30, 2003.
<i>Sun</i>	BO	Qing-feng Sun, Jian Wang, and Tsung-han Lin, "Control of the supercurrent in a mesoscopic four-terminal Josephson junction", <i>Physical Review B</i> , Vol. 62, pp. 648–660 (2000).
<i>Sun</i>	BP	D.A. Wollman, D.J. Van Harlingen, J. Giapintzakis, and D.M. Ginsberg, "Evidence for $d_{x^2-y^2}$ Pairing from the Magnetic Field Modulation of $YBa_2Cu_3O_7$ -Pb Josephson Junctions", <i>Physical Review Letters</i> , Vol. 74, pp. 797–800 (1995).
<i>Sun</i>	BQ	Malek Zareyan and A.N.Omelyanchouk, "Coherent Current States In Mesoscopic Four-Terminal Josephson Junction", ArXiv.org: cond-mat/9811113, pp. 1–17 (1998).
Examiner Signature	<i>Sun</i>	Date Considered 10-20-2003

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¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

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Sheet	1	of	2	Attorney Docket Number	11090-033-999
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U.S. PATENT DOCUMENTS

Examiner Initials	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
SNW	BA	US-6,495,854 B1		D.M. Newns, and C.C. Tsuei	
SNW	BB	US-6,459,097 B1		A. M. Zagorskin	
SNW	BC	US-6,504,172 B2		A. M. Zagorskin et al.	
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FOREIGN PATENT DOCUMENTS

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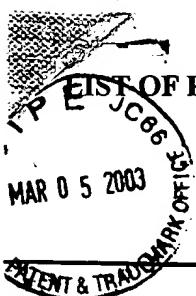
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<i>Sue</i>	AD	A.Yu.Kitaev, "Quantum measurements and the Abelian Stabilizer Problem", ArXiv.org: quant-ph/9511026, pp. 1-22 (1995).
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<i>Sue</i>	AF	P. Shor, "Polynomial-Time Algorithms For Prime Factorization And Discrete Logarithms On A Quantum Computer", ArXiv.org: quant-ph/9508027, pp. 1-26 (1995).
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

LIST OF REFERENCES CITED BY APPLICANT
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U.S. PATENT DOCUMENTS

*EXAMINER INITIAL	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE

FOREIGN PATENT DOCUMENTS

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See	A01	B.J. Vleeming, F.J.C. van Bemmelen, M.R. Berends, R. de Bruyn Ouboter, and A.N. Omelyanchouk, "Measurements of the flux, embraced by the ring of a four-terminal SQUID, as a function of the external magnetic flux and the applied transport current", <i>Physica B</i> , Vol. 262, pp. 296-305 (1999).
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